Flooding and Trees

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The Iowa Department of Natural Resources Forestry Bureau has been receiving numerous phone calls on the possible effects of flooding on trees. The most common question tends to be: “how long can trees survive flooding”? Fortunately, most trees will survive the floods and continue growing for the rest of the season. However, some trees can be sensitive to the duration of the flood waters that cover the roots and may show injury symptoms. Injury symptoms can include leaf chlorosis (yellowing), leaf drop, curling of leaves, and branch dieback. In some extreme cases the entire tree may die, typically if part or most of the crown of the tree is under water.

Hard maples (sugar, black, and Norway), buckeye, lindens, white oak, red oak, redbud, and most all of the conifers tend to be intolerant of flood damage. Research has indicated that these trees can handle up to a week of flooding without expressing stress symptoms. Boxelder, elm, hackberry, hawthorn, river birch, sycamore, and swamp white oak have been classified as moderately flood-tolerant species. Moderately flood tolerant trees tend to be able to handle 30 consecutive days of flooding with little to no damage. Cottonwood, green ash, honeylocust, silver maple, red maple, and baldcypress are classified as flood tolerant species. Flood tolerant species may be able to handle 60 consecutive days of flooding without damage. Each week beyond the defined flood tolerance time period increases the risk for damage and mortality.

After the flood waters recede, waterlogged soils would be the next concern. Tree roots need oxygen, which would not accessible in saturated soils. Warm, dry weather is needed after the flood waters recede to prevent further damage from oxygen deprivation to the root system. To keep the trees healthy, prune out all of the deadwood later this season and when you are ready to replant, be certain to plant flood tolerant trees in flood plains.

For more detailed information visit this link http://www.extension.iastate.edu/Publications/SUL1.pdf